CONCLUSIONS

The specification and claims have all been amended to comply with the requirements of 37 C.F.R. §1.821 through 1.825. The Applicants believe the application is in appropriate form for examination. A clean copy of the claims and the amended paragraph in the specification are attached in the Appendix. A copy of the Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures is attached.

No fees are believed to be due with this amendment. In the event a fee is required, authority is hereby given to charge any such deficiency to Deposit Account No. 13-2165 Mathews, Collins, Shepherd & Gould. The Examiner is invited to contact the undersigned if further information is required.

Respectfully submitted,
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APPENDIX

CLEAN COPY OF THE CLAIMS

34. A nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression, and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO:1, wherein the high stringency conditions are selected from the group consisting of:

    (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

    (ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

35. A nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression, and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO:5, wherein the high stringency conditions are selected from the group consisting of:

    (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

    (ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

36. A method of producing a transgenic papaya plant with inhibited fruit senescence including the steps of:

    (a) introducing into a papaya plant, plant part or plant cell a vector comprising a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:5 under high stringency conditions selected from the group consisting of:

        (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20

minutes; and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;

wherein said isolated nucleotide sequence is operably linked, in a sense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic papaya plant.

37. A method of producing a transgenic papaya plant with inhibited fruit senescence including the steps of:

(a) introducing into a papaya plant, plant part or plant cell a vector comprising a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:5 under high stringency conditions selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;

wherein said nucleotide sequence is operably linked, in an antisense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic papaya plant.

38. A nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression, and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO:7 or SEQ ID NO:9, wherein the high stringency conditions are selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

39. A method of producing a transgenic mango plant with inhibited fruit senescence comprising:

(a) introducing into a mango plant, plant part or plant cell a vector comprising a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:7 or SEQ ID NO:9 under high stringency conditions selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;

wherein said nucleotide sequence is operably linked, in a sense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic mango plant.

40. A method of producing a transgenic mango plant with inhibited fruit senescence including the steps of:

(a) introducing into a mango plant, plant part or plant cell a vector comprising an isolated nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:7 or SEQ ID NO:9 under high stringency conditions selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes;

and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;

wherein said nucleotide sequence is operably linked, in an antisense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic mango plant.

41. A transgenic papaya plant produced by the method of Claim 16 or Claim 17.

42. A papaya fruit obtained from the transgenic papaya plant of Claim 21.

43. A transgenic mango plant produced by the method of Claim 19 or Claim 20.

44. A mango fruit obtained from the transgenic mango plant of Claim 23.

45. A vector comprising at least one copy of a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO: 1, SEQ ID NO: 5, SEQ ID NO: 7 or SEQ ID NO: 9, wherein the high stringency conditions are selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and
(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

46. The vector of Claim 25 wherein said nucleotide sequence is operably linked to at least one regulatory nucleotide sequence.

CLEAN COPY OF AMENDED SPECIFICATION

Page 9, Paragraph 2

The primers used for reverse transcription (step (c)) and PCR (step (d)) are preferably degenerate primers. Suitably, the degenerate primers correspond to conserved portions of different ACC synthase isoforms. Preferably, the degenerate primers are selected from the group consisting of:

5' TA(C/T)TT(C/T)GA(C/T)GG(A/C/G/T)TGGAA(A/G)GC 3' (SEQ ID NO:11);

5' TC(A/G)TCCAT(A/G)TT(A/C/G/T)GC(A/G)AA(A/G)CA 3' (SEQ ID NO:12);

5' CA(A/G)ATGGG(A/C/G/T)(C/T)T(A/C/G/T)GC(A/C/G/T)GA(A/G)AA 3'(SEQ ID NO:13); 5' AC(A/C/G/T)C(G/T)(A/G)AACCA(A/C/G/T)CC(A/C/G/T)GG(C/T)TC 3' (SEQ ID NO:15); 5' GCTCTAGATA(C/T)TT(C/T)GA(C/T)GG(A/C/G/T)TGGAA(A/G)GC 3' (SEQ ID NO:16); 5' GCGAATTC(A/G)TCCAT(A/G)TT(A/C/G/T)GC(A/G)AA(A/G)CA 3' (SEQ ID NO:17);5' CCTGATCA(A/G)ATGGG(A/C/G/T) (C/T)T(A/C/G/T)GC(A/C/G/T)GA(A/G)AA 3' (SEQ ID NO:18); and 5' CTCTGCAGC(A/G)AA(A/G)CA(A/C/G/T)AC(A/C/G/T)C(G/T)(A/G)AACCA 3'.